WHAT IS CLAIMED IS:

1. A system for measuring blood flow in an organ of a subject, the system comprising:

a radiofrequency generator for generating output radiofrequency signals;

a plurality of electrodes, designed to be connectable to the skin of the subject, said electrodes being for transmitting said output radiofrequency signals to the organ and for sensing input radiofrequency signals of the organ;

a mixer, electrically communicating with said radiofrequency generator and at least a portion of said plurality of electrodes, for mixing said output radiofrequency signals and said input radiofrequency signals, so as to provide a mixed radiofrequency signal being indicative of the blood flow; and

electronic circuitry, constructed and designed to filter out a portion of said mixed radiofrequency signal so as to substantially increase a signal-to-noise ratio of a remaining portion of said mixed radiofrequency signal.

2. The system of claim 1, wherein said mixer is operable to provide a radiofrequency sum and a radiofrequency difference.

3. The system of claim 2, wherein said electronic circuitry comprises a low pass filter for filtering out said radiofrequency sum.

4. The system of claim 1, wherein said electronic circuitry comprises an analog amplification circuit for amplifying said remaining portion of said mixed radiofrequency signal.

5. The system of claim 1, wherein said electronic circuitry comprises a digitizer for digitizing said remaining portion of said mixed radiofrequency signal.

6. The system of claim 1, wherein said electronic circuitry is designed and constructed so as to minimize sensitivity of said input radiofrequency signals to

impedance differences between said plurality of electrodes and the organ of the subject.

7. The system of claim 6, wherein said electronic circuitry comprises at least one differential amplifier characterized by an impedance being substantially larger than said impedance differences between said plurality of electrodes and the organ of the subject.

8. The system of claim 1, further comprising a data processor for calculating at least one quantity using said remaining portion of said mixed radiofrequency signal, said at least one quantity being selected from the group consisting of a stroke volume, a cardiac output, a brain intra luminal blood flow and an artery blood flow rate.

9. The system of claim 8, wherein said artery blood flow rate is selected from the group consisting of an external carotid blood flow rate, an internal carotid blood flow rate, an ulnar blood flow rate, a radial blood flow rate, a brachial blood flow rate, a common iliac blood flow rate, an external iliac blood flow rate, a posterior tibial blood flow rate, an anterior tibial blood flow rate, a peroneal blood flow rate, a lateral plantar blood flow rate, a medial plantar blood flow rate, a deep plantar blood flow rate.

10. The system of claim 8, further comprising a pacemaker, communicating with said data processor and operable to control a heart rate of the subject, wherein said data processor is programmed to electronically control said pacemaker, in accordance with a value of said at least one quantity.

11. The system of claim 8, further comprising a drug administrating device, communicating with said data processor and operable to administrate drugs to the subject, wherein said data processor is programmed to electronically control said drug administrating device, in accordance with a value of said at least one quantity.

12. The system of claim 8, further comprising a cardiac assist device, communicating with said data processor and operable to increase said cardiac output.

13. The system of claim 12, wherein said cardiac assist device comprises a reinforcing member designed and configured to restrict an expansion of a portion of a heart tissue, thereby to increase said cardiac output.

14. The system of claim 1, wherein a number of said plurality of electrodes is selected so as to substantially decouple said input radiofrequency signals from at least one effect selected from the group consisting of a posture changes effect, a respiration effect and a motion effect.

15. The system of claim 1, wherein said plurality of electrodes comprises two electrodes.

16. The system of claim 1, wherein said plurality of electrodes comprises three electrodes.

17. The system of claim 1, wherein said plurality of electrodes comprises four electrodes.

18. The system of claim 1, wherein at least a portion of said plurality of electrodes are designed and constructed to so as to have a substantial constant sensitivity to electrical signals transmitted through said electrodes, irrespectively of an orientation of said electrodes on the subject.

19. The system of claim 1, wherein at least a portion of said plurality of electrodes comprises at least one elongated conducting material constructed and designed to wind at least a portion of an external organ of the subject, so as to have a substantial constant sensitivity to electrical signals transmitted through said electrodes, irrespectively of an orientation of said electrodes on said external organ.

20. The system of claim 19, wherein at least a portion of said plurality of electrodes comprises an attaching material.

21. The system of claim 19, wherein said external organ is selected from the group consisting of a chest, a hip, a thigh, a neck, a head, an arm, a forearm, an abdomen, a gluteus, a leg and a foot.

22. The system of claim 1, further comprising a bioimpedance detector electrically communicating with at least a portion of said plurality of electrodes for detecting a voltage between a first location and a second location of the subject and for generating said input radiofrequency signals in response to said voltage, wherein said input radiofrequency signals being indicative of impedance of the organ.

23. The system of claim 22, further comprising at least one sensor for sensing said voltage, said at least one sensor being constructed and designed for generating signals having a magnitude which is a function of blood flow in, from or to the organ.

24. The system of claim 22, wherein said electronic circuitry comprises a differentiator for performing at least one time-differentiation, to provide a respective derivative of said impedance between said first and said second locations.

25. The system of claim 24, wherein said derivative is selected from the group consisting of a first derivative and a second derivative.

26. The system of claim 24, wherein said differentiator is selected from the group consisting of a digital differentiator and an analog differentiator.

27. The system of claim 1, further comprising a display device for displaying the blood flow.

28. The system of claim 27, wherein said display device is capable of displaying the blood flow as a function of time.

29. The system of claim 1, wherein said signal-to-noise ratio is increased by at least 10dB.

30. The system of claim 1, wherein said signal-to-noise ratio is increased by at least 20dB.

31. An electrode for transmitting and receiving signals of an internal organ of a subject, comprising at least one elongated conducting material constructed and designed to wind at least a portion of an external organ of the subject, so as to have a substantial constant sensitivity to the signals, irrespectively of an orientation of the electrode on said external organ.

32. The electrode of claim 31, wherein said external organ is selected from the group consisting of a chest, a hip, a thigh, a neck, a head, an arm, a forearm, an abdomen, a gluteus, a leg and a foot.

33. The electrode of claim 31, further comprising an attaching material.

34. An apparatus for determining blood flow in an organ of a subject, the apparatus having a radiofrequency measuring unit, the radiofrequency measuring unit is capable of transmitting output radiofrequency signals to the organ and receiving input radiofrequency signals of the organ, the apparatus comprising:

(a) a mixer, electrically communicating with said radiofrequency measuring unit, for mixing said output radiofrequency signals and said input radiofrequency signals, so as to provide a mixed radiofrequency signal being indicative of the blood flow; and

(b) electronic circuitry, constructed and designed to filter out a portion of said mixed radiofrequency signal so as to substantially increase a signal-to-noise ratio of a remaining portion of said mixed radiofrequency signal.

35. The apparatus of claim 34, wherein said mixer is operable to provide a radiofrequency sum and a radiofrequency difference.

36. The apparatus of claim 35, wherein said electronic circuitry comprises a low pass filter for filtering out said radiofrequency sum.

37. The apparatus of claim 34, wherein said electronic circuitry comprises an analog amplification circuit for amplifying said remaining portion of said mixed radiofrequency signal.

38. The apparatus of claim 34, wherein said electronic circuitry comprises a digitizer for digitizing said remaining portion of said mixed radiofrequency signal.

39. The apparatus of claim 34, wherein said electronic circuitry is designed and constructed so as to minimize sensitivity of said input radiofrequency signals to impedance differences between said plurality of electrodes and the organ of the subject.

40. The apparatus of claim 39, wherein said electronic circuitry comprises at least one differential amplifier characterized by an impedance being substantially larger than said impedance differences between said plurality of electrodes and the organ of the subject.

41. The apparatus of claim 34, wherein said electronic circuitry comprises a differentiator for performing at least one time-differentiation, to provide a respective derivative of an impedance between a first location and a second location of the body of the subject.

42. The apparatus of claim 41, wherein said derivative is selected from the group consisting of a first derivative and a second derivative.

43. The apparatus of claim 41, wherein said differentiator is selected from the group consisting of a digital differentiator and an analog differentiator.

44. The apparatus of claim 34, wherein said signal-to-noise ratio is increased by at least 10dB.

45. The apparatus of claim 34, wherein said signal-to-noise ratio is increased by at least 20dB.

46. A method of measuring blood flow in an organ of a subject, the method comprising:

generating output radiofrequency signals;

transmitting said output radiofrequency signals to the organ and sensing input radiofrequency signals of the organ;

mixing said output radiofrequency signals and said input radiofrequency signals, so as to provide a mixed radiofrequency signal being indicative of the blood flow; and

filtering out a portion of said mixed radiofrequency signal so as to substantially increase a signal-to-noise ratio of a remaining portion of said mixed radiofrequency signal, thereby measuring the blood flow.

47. The method of claim 46, wherein said mixing comprises providing a radiofrequency sum and a radiofrequency difference.

48. The method of claim 47, wherein said filtering said portion of said mixed radiofrequency signal is by a low pass filter constructed and designed for filtering out said radiofrequency sum.

49. The method of claim 46, further comprising analogically amplifying said remaining portion of said mixed radiofrequency signal.

50. The method of claim 46, further comprising digitizing said remaining portion of said mixed radiofrequency signal.

51. The method of claim 46, wherein said electronic circuitry is designed and constructed so as to minimize sensitivity of said input radiofrequency signals to impedance differences between said plurality of electrodes and the organ of the subject.

52. The method of claim 51, wherein said electronic circuitry comprises at least one differential amplifier characterized by an impedance being substantially larger than said impedance differences between said plurality of electrodes and the organ of the subject.

53. The method of claim 46, further comprising calculating at least one quantity using said remaining portion of said mixed radiofrequency signal, said at least one quantity being selected from the group consisting of a stroke volume, a cardiac output and a brain intra luminal blood volume and an artery blood flow rate.

54. The method of claim 53, wherein said artery blood flow rate is selected from the group consisting of an external carotid blood flow rate, an internal carotid blood flow rate, an ulnar blood flow rate, a radial blood flow rate, a brachial blood flow rate, a common iliac blood flow rate, an external iliac blood flow rate, a posterior tibial blood flow rate, an anterior tibial blood flow rate, a peroneal blood flow rate, a lateral plantar blood flow rate, a medial plantar blood flow rate, a deep plantar blood flow rate.

55. The method of claim 53, further comprising controlling a heart rate of the subject in accordance with a value of said at least one quantity.

56. The method of claim 55, wherein said controlling a heart rate of the subject is by a pacemaker.

57. The method of claim 53, further comprising using a value of said at least one quantity for selecting an amount and a type of drugs and administrating said amount and said type of drugs to the subject.

58. The method of claim 53, further comprising providing a site of surgical access to a portion of a heart of a subject and maintaining the reduction of cardiac expansion of said portion of said heart a substantial amount of time so as to increasing said cardiac output.

59. The method of claim 46, wherein said transmitting said output radiofrequency signals to the organ and sensing said input radiofrequency signals of the organ is by connecting a plurality of electrodes to the skin of the subject.

60. The method of claim 59, wherein a number of said plurality of electrodes is selected so as to substantially decouple said input radiofrequency signals from at least one effect selected from the group consisting of a posture changes effect, a respiration effect and a motion effect.

61. The method of claim 59, wherein said plurality of electrodes comprises two electrodes.

62. The method of claim 59, wherein said plurality of electrodes comprises three electrodes.

63. The method of claim 59, wherein said plurality of electrodes comprises four electrodes.

64. The method of claim 59, wherein said connecting said plurality of is done so as to have a substantial constant sensitivity to electrical signals transmitted through said electrodes, irrespectively of an orientation of said electrodes on the subject.

65. The method of claim 59, wherein at least a portion of said plurality of electrodes comprises at least one elongated conducting material constructed and designed to wind at least a portion of an external organ of the subject, so as to have a substantial constant sensitivity to electrical signals transmitted through said electrodes, irrespectively of an orientation of said electrodes on said external organ.

66. The method of claim 65, wherein said external organ is selected from the group consisting of a chest, a hip, a thigh, a neck, a head, an arm, a forearm, an abdomen, a gluteus, a leg and a foot.

67. The method of claim 46, further comprising detecting a voltage between a first location and a second location of the subject and generating said input radiofrequency signals in response to said voltage, wherein said input radiofrequency signals being indicative of impedance of the organ.

68. The method of claim 67, further comprising performing at least one time-differentiation thereby providing a respective derivative of said impedance between said first and said second locations.

69. The method of claim 68, wherein said derivative is selected from the group consisting of a first derivative and a second derivative.

70. The method of claim 68, wherein said performing said time-differentiation is effected by a procedure selected from the group consisting of a digital differentiation and an analog differentiation.

71. The method of claim 46, further comprising displaying the blood flow using a display device.

72. The method of claim 71, wherein said display device is capable of displaying the blood flow as a function of time.

73. The method of claim 46, wherein said signal-to-noise ratio is increased by at least 10dB.

74. The method of claim 46, wherein said signal-to-noise ratio is increased by at least 20dB.